ATTACHMENT J1

Barnes ANGB Electric Distribution System

TABLE OF CONTENTS

List of Tables

J1 Barnes ANGB Electric Distribution System

J1.1 Barnes ANGB Overview

Barnes ANGB is located at the Westfield-Barnes Municipal Airport, in western Massachusetts. The Base is located on 180 acres in two parcels of land leased from the City of Westfield, and has 49 buildings occupying a total of more than 304,238 square feet.

Barnes ANGB is the headquarters of the 104th Fighter Group, and currently employs approximately 330 full-time personnel during weekday shifts. In addition, the Base supports over 1,000 traditional part-time Air National Guard personnel.

The National Guard Bureau authorized the original unit that became the 131st Fighter Squadron in late 1946. The Squadron received its first aircraft, P-47 Thunderbolts, in 1947, when the Base was established at the northwest corner of the Westfield Municipal Airport. Conversion to Group status took place in 1956 with the formation of the 104th Fighter Group. In 1961, the 104th was called to active duty in France to support the Berlin Airlift for 1 year.

Over the years, several different types of aircraft have been assigned to the Base. The original P-47s were replaced with P-51 Mustangs in 1950. The 131st Fighter Squadron received its first jet, the F-94 Starfire, by 1954. It subsequently received F-86 Sabrejets in 1957, F-84 Thunderstreaks in 1964, F-100 Supersabres in 1971, and, in 1979, the A-10A Thunderbolt II aircraft that are still assigned to the Base today.

Projected future mission requirements have necessitated the renovation or demolition of older facilities and the construction of new facilities. The Barnes ANGB Capital Improvements Program (CIP) emphasizes consolidating existing facilities and maximizing their utilization as much as possible. Over the next five years, key projects planned for Barnes ANGB, if implemented, will increase the total square footage of buildings and facilities on Base by approximately 3 percent .

J1.2 Electric Distribution System Description

J1.2.1 Electric Distribution System Fixed Equipment Inventory

The Barnes ANGB electric distribution system consists of all appurtenances physically connected to the distribution system from the point in which the distribution system enters the Installation and Government ownership currently starts to the point of demarcation, defined by the Right of Way. The system may include, but is not limited to, transformers, circuits, protective devices, utility poles, ductbanks, switches, street lighting fixtures, and other ancillary fixed equipment. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the

technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the electric distribution system privatization are:

- Ramp lighting

J1.2.1.1 Description

Westfield Gas & Electric (WG&E) supplies power to Barnes ANGB through a single 22.9-kilovolt (kV) overhead distribution circuit. This circuit enters the Base near the main gate through two pad-mounted 25 kV switches fused at 200 amperes (A). The two circuits exiting the switches are then distributed about the Base through underground ductbanks.

The distribution system consists of three-phase, four-wire circuits rated at 25 kV and is primarily an underground system with approximately 10 percent under paved areas. The underground system consists of all the manholes, handholes, conduits, and conductors necessary to make up an underground system.

There is no SCADA system for remote operation of the system; however, this is not unusual for small systems such as this.

Local contractors provide maintenance of the Barnes ANGB's electric utility system. No future major construction, maintenance, repair, or replacement projects are planned.

J1.2.1.2 Inventory

Table 1 provides a general listing of the major electric distribution system fixed assets for the Barnes ANGB electric distribution system included in the sale.

TABLE 1
Fixed Inventory
Electric Distribution System Barnes ANGB

Component	Size	Quantity	Unit	Approximate Year of Construction
Underground circuits	**AWG**			
3-phase, 4-wire circuit, UG, 25kV XLP shielded, copper, total conductor length	#1/0	86,500	SCLF	1994
Bare copper ground	#4	21,625	SCLF	1994
Ductbank (2 X 2)	4-in.	7,775	LF	1994
Ductbank (1 X 2)	4-in.	6,075	LF	1994
Manhole	6 ft X 6 ft X 6 ft	31	EA	1994
Transformers				
3-phase, oil-filled	25 kVA	1	EA	1994
	75 kVA	5	EA	1994

TABLE 1
Fixed Inventory
Electric Distribution System Barnes ANGB

Component	Size	Quantity	Unit	Approximate Year of Construction
	112.5 kVA	1	EA	1994
	150 kVA	1	EA	1994
	225 kVA	3	EA	1994
	300 kVA	3	EA	1994
	500 kVA	5	EA	1994
	500 kVA	1	EA	2002
	750 kVA	2	EA	1994
Pad, concrete, est. at 76-in. X 76-in. X 15-in.		8	SF	1994
Pad, concrete, est. at 94-in. X 94-in. X 15-in.		12	SF	1994
Pad, concrete, est. at 96 in. X 114 in. X 15 in.		2	SF	1994
Cable terminators, UG, est. at 1 per phase at riser pole		3	EA	1994
Cable terminators, UG, est. at 1 per phase at pad mount transformer		24	EA	1994
Fuse cutouts, 1 per phase		63	EA	1994
Elbows		88	EA	1994
Transformers, grounding		22	EA	1994
Utility Poles				
Wood pole	40-ft	11	EA	1945
Aluminum pole	30-ft	8	EA	1994
Light pole arm		4	EA	1994
Switches	**Type**			
Sectionalizing switch, pad mounted, 25 kV, 600 A	2-way	2	EA	1993
	4-way	1	EA	1994
Concrete switch pad, est. at 94 in. X 94 in. X 15 in.		3	EA	1993
Street Lights				
Street light	150 W HPS	6	EA	1994
	250 W HPS	6	EA	1994

TABLE 1
Fixed Inventory
Electric Distribution System Barnes ANGB

Component	Size	Quantity	Unit	Approximate Year of Construction
Meters				
Electric meters		18	EA	1990

Notes:
A = ampere
AWG = American Wire Gauge
EA = each
est. = estimate
ft = feet
HPS = high-pressure sodium
in. = inches
kV = kilovolt
kVA = kilovolt ampere
LF = linear feet
Nom kVA = nominal kilovolt-amperes
SF = square feet
SCLF = single conductor linear feet
UG = Underground
W = watt
XLP = cross-link polyethylene insulated

J1.2.2 Electric Distribution System Non-Fixed Equipment and Specialized Tools

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 2
Spare Parts
Electric Distribution System Barnes ANGB

Qty	Item	Description	Make/Model	Remarks
There are no spare parts included with the system to be privatized.				

TABLE 3
Specialized Vehicles and Tools
Electric Distribution System Barnes ANGB

Qty	Description	Location	Maker
There are no specialized vehicles or tools included with the system to be privatized.			

J1.2.3 Electric Distribution System Manuals, Drawings, and Records

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Electric Distribution System Barnes ANGB

Qty	Item	Description	Remarks
2 ea	Drawings TAB U4-A	Utility Plans/Electrical System	Engineering Office
31 ea	Drawings	Replace/Repair of Elect Distribution System	Engineering Office
1 box	Project files	Replace Elect Dist Sys/ Design and Const.	Box 155, Building 1 Archives

J1.3 Specific Service Requirements

The service requirements for the Barnes ANGB electric distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Barnes ANGB electric distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- The Contractor shall enter into a Memorandum of Understanding with the Barnes ANGB Fire Department for fire protection of all facilities included in the purchase of the utility. The Memorandum of Understanding shall be completed during the transition period and a copy provided to the Contracting officer.
- The Contractor shall provide monthly meter reading reports IAW paragraph J1.6. The Contractor shall keep a meter book(s) and record monthly consumption and demand (if applicable) for each meter being read. The Contractor shall coordinate with the Government to determine the format of the meter books to be submitted.
- When new meters are installed, including meters installed for temporary service connections, the Contractor shall include with the meter reading report a separate report identifying the new meters installed during the prior month. The Contractor shall coordinate with the Government to determine the format of the report to be submitted.

J1.4 Current Service Arrangement

Barnes ANGB currently receives power (commodity supply) from Westfield Gas and Electric (WG&E).

Annual consumption of electric power at Barnes ANGB during FY 2002, is approximately 3,232,400 kilowatt-hours (kWh). The highest monthly consumption for the year was approximately 339,000 kWh in January. The lowest monthly consumption for the year was approximately 123,000 kWh in each of July, August, and September.

J1.5 Secondary Metering

J1.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3 and J1.6 below.

TABLE 5
Existing Secondary Meters
Electric Distribution System Barnes ANGB

Meter Location	Meter Description
Building 003, Dining facility	
Building 020, Propulsion	
Building 027, Fuel dock	
Building 016, Heating plant	
Building 002, Avionics	
Building 026, Weapons/Avionics	
Building 029, Com/Security/Medical	
Building 033, Pol Ops	
Building 036, Disaster preparedness	
Building 025, Squadron operations	
Building 017, Base supply warehouse	
Building 052, HAZMAT Pharmacy	
Building 009, Base Supply	
Building 001, Administration	
Building 055, Vehicle maintenance	
Building 008, Old dining hall	
Building 040, BCE/Fire station	
Building 050, NCO Club	

J1.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Paragraph C.13, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J1.6 below.

TABLE 6
New Secondary Meters
Electric Distribution System Barnes ANGB

Meter Location	Meter Description
There are no new secondary meters required with the system to be privatized.	

J1.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

   Name: 104 FW/CE
   Address: 175 Falcon Drive
   Westfield, MA 01085-1482

2. Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: 104 FW/CE
   Address: 175 Falcon Drive
   Westfield, MA 01085-1482

3. Meter Reading Report. The monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to:

   Name: 104 FW/CE
   Address: 175 Falcon Drive
   Westfield, MA 01085-1482

4. System Efficiency Report. If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to:

   Name: 104 FW/CE
   Address: 175 Falcon Drive
   Westfield, MA 01085-1482

J1.7 Energy Saving Projects

IAW Paragraph C.3, Requirement, the following projects have been implemented on the distribution system by the Government for energy conservation purposes.

- There are no energy savings projects associated with the system to be privatized.

J1.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Barnes ANGB boundaries.

J1.9 Off-Installation Sites

No off-installation sites are included in the sale of the Barnes ANGB electric distribution system.

J1.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

TABLE 7
Service Connections and Disconnections
Electric Distribution System Barnes ANGB

Location	Description
There are no service connections and disconnections for the system to be privatized.	

J1.11 Government Recognized System Deficiencies

Table 8 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the Barnes ANGB electric distribution system. If the system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades and Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AB.

TABLE 8
System Deficiencies
Electrical Distribution System Barnes ANGB

Project Location	Project Description
There are no government-recognized system deficiencies for the system to be privatized.	